

Amendments to the Claims

This listing of the claims will replace all prior versions, and listings of claims in the application:

5 **Listing of Claims:**

- 1 1. (Currently amended) an air bearing surface used in a slider, comprising:
2 each member of a deflection rail collection resides in a negative pressure pocket formed
3 between a leading air bearing surface and a central island containing a read-write head;
4 said deflection rail collection comprises a left deflection rail, ~~and~~ a right deflection rail, a
5 second left deflection rail, and a second right deflection rail;
6 wherein said left deflection rail is separated by a first gap from said right deflection rail;
7 wherein said gap is greater than zero distance.
- 1 2. (Original) The apparatus of Claim 1, wherein said leading air bearing surface has a depth D2
2 from said negative pressure pocket; and
3 wherein for each member of said deflection rail collection, a height of said member is
4 greater than zero.
- 1 3. (Original) The apparatus of Claim 2, wherein for all of said members of said deflection rail
2 collection, said height of said member is essentially the same.
- 1 4. (Original) The apparatus of Claim 3, wherein for each member of said deflection rail
2 collection, said height of said member is essentially equal to said depth D2.
- 1 5. (Original) The apparatus of Claim 2, wherein for at least one of said members of said
2 deflection rail collection, said height of said member is less than said depth D2.
- 1 6. (Original) The apparatus of Claim 5, wherein said central island includes a ledge starting
2 distance D1 from said depth D2;
3 wherein for said member of said deflection rail collection, said height of said member is
4 essentially the same as said depth D2 minus said depth D1.

- 1 7. (Original) The apparatus of Claim 2, wherein for at least one member of said deflection rail
2 collection, said height of said member is greater than said depth D2.
- 1 8. (Original) The apparatus of Claim 2, wherein for each member of said deflection rail
2 collection, said height of said member is less than said depth D2.
- 1 9. (Original) The apparatus of Claim 1, wherein each member of said deflection rail collection
2 includes a front face at an angle to the principal axis of said slider to aid deflecting an incoming
3 particle away from said central island, whenever said slider is in operation.
- 1 10. (Original) The apparatus of Claim 9, wherein for each member of said deflection rail
2 collection, said front face aids deflecting said incoming particle away from said read-write head.
- 1 11. (Original) The apparatus of Claim 1, wherein for each member of said deflection rail
2 collection, said angle of said front face is between ninety degrees and one hundred and eighty
3 degrees.
- 1 12. (Original) The apparatus of Claim 11, wherein for each member of said deflection rail
2 collection, said angle of said front face is between one hundred and twenty degrees and one
3 hundred and seventy degrees.
- 1 13. (Original) The apparatus of Claim 1, wherein said first gap provides means for diminishing
2 said negative air pressure in said negative pressure pocket.
- 1 14. (Original) The apparatus of Claim 13, wherein means for diminishing said negative air
2 pressure includes said first gap inducing at least one air current between said left deflection rail
3 and said right deflection rail.
- 1 15. (Original) The apparatus of Claim 1, wherein said left deflection rail is closer to said leading
2 air bearing surface than said right deflection rail.
- 1 16. (Original) The apparatus of Claim 1, wherein said right deflection rail is closer to said
2 leading air bearing surface than said left deflection rail.

1 17. (Original) The apparatus of Claim 1, wherein said first gap provides means for diminishing
2 said negative air pressure in said negative pressure pocket.

1 18. (cancelled)

1 19. (cancelled)

1 20. (cancelled)

1 21. (cancelled)

1 22. (cancelled)

1 23. (cancelled)

1 24. (cancelled)

1 25. (Original) The apparatus of Claim 1, wherein for at least one of said members of said
2 deflection rail collection, said member includes a back face.

1 26. (Original) The apparatus of Claim 25, wherein for at least one of said members of said
2 deflection rail collection, said back face is essentially parallel to at least one of said front faces of
3 said member.

1 27. (Original) The apparatus of Claim 26, wherein for said at least one member of said
2 deflection rail collection, at least one of said front faces is essentially straight.

1 28. (cancelled)

1 29. (cancelled)

1 30. (cancelled)

1 31. (Original) The apparatus of Claim 30, wherein for said at least one member of said
2 deflection rail collection, at least one of said front faces is essentially straight.

- 1 32. (Original) The apparatus of Claim 31, wherein for said at least one member of said
2 deflection rail collection, at least two of said front faces is essentially straight.
- 1 33. (cancelled)
- 1 34. (Original) The apparatus of Claim 1, wherein the length of said left deflection rail is
2 essentially the same as the length of said right deflection rail.
- 1 35. (Original) The apparatus of Claim 1, wherein the length of said left deflection rail is less
2 than the length of said right deflection rail.
- 1 36. (Original) The apparatus of Claim 1, wherein the length of said left deflection rail is greater
2 than the length of said right deflection rail.
- 1 37. (Original) A head gimbal assembly including said slider using said air bearing surface of
2 Claim 1.
- 1 38. (Original) An actuator arm including said head gimbal assembly of Claim 37.
- 1 39. (Original) An actuator assembly including said actuator arm of Claim 38.
- 1 40. (Original) A hard disk drive, including said actuator assembly of Claim 39 positioning said
2 read-write head to access a rotating disk surface within said hard disk drive.
- 1 41. (Original) The apparatus of Claim 40, wherein said slider flies within a distance D3 of said
2 rotating disk surface while said read-write head accesses said track.
- 1 42. (Original) The apparatus of Claim 41, wherein said distance D3 is less than fifteen nano-
2 meters (nm).
- 1 43. (Original) The apparatus of Claim 42, wherein said distance D3 is less than ten nano-meters
2 (nm).

1 44. (Original) The apparatus of Claim 43, wherein said distance D3 is less than five nano-meters
2 (nm).

1 45. (Original) The apparatus of Claim 44, wherein said distance D3 is less than three nano-
2 meters (nm).

1 46. (Original) A method of operating said slider of Claim 1 in said hard drive, comprising the
2 steps of:

3 for each of said members of said deflection rail collection, said member causing an
4 incoming particle to tend to deflect away from said central island; and
5 said first gap diminishing additional negative pressure in said negative pressure pocket.

1 47. (Original) The method of Claim 46, wherein the step of said first gap diminishing said
2 negative air pressure, is further comprised of the step of:

3 said first gap inducing an air current between said left deflection rail and said right
4 deflection rail which diminishes additional negative pressure.

1 48. (Original) A method of Claim 46, wherein the step of said member causing an incoming
2 particle to tend to deflect away from said central island, is further comprised of the step of:

3 said members providing at least one front face to collide with said incoming particle to
4 create the tendency to deflect away from said central island.

1 49. (Original) A method of making a head gimbal assembly, comprising the steps of:

2 coupling said slider of Claim 1 to a flexure to present the air bearing surface and read-
3 write head; and

4 coupling said flexure to a load beam.

1 50. (Original) A method of making an actuator arm, comprising the step of: coupling said head
2 gimbal assembly of Claim 49 through said load beam to said actuator arm.

1 51. (Original) A method of making an actuator assembly, comprising the step of:

2 coupling at least one of said actuator arms of Claim 52 to an actuator pivot.

- 1 52. (Original) A method of making a hard disk drive, comprising the step of:
2 mounting said actuator assembly through said actuator pivot to a disk base.
- 1 53. (Original) Said hard disk drive as a product of the process of Claim 52.
- 1 54. (Original) Said actuator assembly as a product of the process of Claim 51.
- 1 55. (Original) Said actuator arm as a product of the process of Claim 50.
- 1 56. (Original) Said head gimbal assembly as a product of the process of Claim 49.
- 1 57. (Original) Said slider using said air bearing surface of Claim 1.